

NEW TAXA AND RECOMBINATIONS IN *LOPEZIA* (ONAGRACEAE)

UZI PLITMANN,¹ PETER H. RAVEN,² AND D. E. BREEDLOVE³

Studies of the 22 species of *Lopezieae*, one of the six tribes of *Onagraceae*, have led to the conclusion that these are best treated as a single genus. In the course of our investigations, three new taxa have been discovered and several new combinations have become necessary. These are published here so that they may be available for one or more papers on the group that will appear before our monograph, to be published in the *Annals of the Missouri Botanical Garden* in 1973.

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NEW TAXA

Lopezia ciliatula Plitmann, Raven & Breedlove, sp. nov.

Herbae annuae hirtellae, pilis rectis vel crispis. Rami 40–80 cm alti, erecti, plerumque ramosi; ramulosi tenues, teretes ad angulares. Folia 1–9 × 0.5–5 cm, alternantia ad raro opposita, ovata vel oblongo-ovata ad lanceolata, membranacea, longipetiolata, basi plerumque obliquo vel inaequale subcordata ad obtusa vel late cuneata, apice acuta ad acuminata, serrata vel serrulata, in quoque latere costae venulis 4–8 praedita, hispidula, pilis paucis strigulosis admixta, ciliata; petioli 0.3–6.5 cm longa, angustissime alati, pubescentes. Inflorescentia terminalis delicata infra foliosa; bractee 0.3–2.5 × 0.05–0.7 cm, lanceolatae ad lineares vel subulatae, basi subcuneatae, apice acuminatae, subserrulatae vel integrae, petiolatae vel sessiles; pedicelli 0.8–1.5 cm longi, subscandentes, filiformes atque angulares vel alati, dense et breviter hirsuti. Sepala 0.3–0.45 × 0.07–0.1 cm, plerumque linearo-lanceolata, acuta, subglabra, viridia ad purpurascens. Petala inferiora 0.25–0.4 × 0.15–0.2 cm, oblongo-ovata, in unguem brevem producta, subcrenulata, ad basin plus minusve breviter ciliata, rubescentes vel albescentes; petala superiora 0.25–0.4 × 0.05–0.09 cm, anguste linearo-spatulata, ad basin parum angustata demum late obtriangularo-obovata auriculis alatis glandis 2 viridibus, sessilia, apice obtusa, ciliata, rubescentia ad purpurascens. Stamen 0.3–0.4 cm; filamentum alato-dilatatum apice excepto; anthera 0.1–0.13 × 0.07 cm, plantis locarum umbrosarum pallidior. Staminodium 0.25–0.4 × 0.15–0.2 cm, suborbiculare vel obovato-spatulatum, apice submarginatum, in unguem longum productum, reubescens. Stylus 0.25–0.35 cm longus; stigma parvum, capitato-obconideum; ovarium globosum ad ellipsoideum, pilosum. Capsula 0.15–0.35 × 0.15–0.35 cm, subglobosa, strigulosa. Semina ca 0.08 × 0.05 mm, oblongo-ovoidea,

¹ Department of Botany, Hebrew University of Jerusalem, Israel.

² Missouri Botanical Garden, 2315 Tower Grove Ave., St. Louis, Missouri 63110.

³ Department of Botany, California Academy of Sciences, San Francisco, California 94118.

parum falcata, distincto papilloso-tuberculata, atrobrunnea. Numerus chromosomaticus gameticus, $n = 9$.

Type: MEXICO. SINALOA: Sierra Surutato, Cañon de Tarahumares between Arroyo Verde and Rancho Tarahumares, steep north-facing slope, 27 February 1968, *D. E. Breedlove 15921* (DS, holotype).

Distribution: Known only from a single population on a steep-walled canyon with *Bursera* and *Ipomoea* in the Cañon de Tarahumares of the Sierra Surutato, elevation ca. 1100 m.

Lopezia ciliatula is easily distinguishable from the related species with two glands on each of the upper petals, by its small flowers, sessile and basally auriculate-winged upper petals, ciliation of the petals, pubescence of the petioles, pedicels, capsules, and inflorescence. It may have been derived from *L. miniata* Lag., which it resembles most closely.

***Lopezia laciniata* (Rose) Jones subsp. *ovata* Plitmann, Raven & Breedlove, subsp. nov.**

Rami flexuosi, decumbentes vel ascendentes, interdum tenues, subglabra. Folia quam in subsp. *laciniata* plerumque latiora (ad 2.2 cm lata), ovata vel lanceolata, basi subcordata ad subacuto-cuneata, apice acuta, superiora distincte petiolata. Numerus chromosomaticus gameticus, $n = 10$.

Type: MEXICO. DURANGO: 20 miles west of La Cicidad, steep moist cliff on edge of barranca, elevation 7,600 feet, 3 October 1966, *D. E. Breedlove 15552* (DS, holotype).

Distribution: Moist places, usually on wet cliffs and slopes, in rock crevices or near streams; altitude (800–) 1300–2800 m. In Durango and Sinaloa.

Lopezia laciniata subsp. *laciniata* is found in similar habitats in the Sierra Madre Occidental of Jalisco.

***Lopezia nuevo-leonis* Plitmann, Raven & Breedlove, sp. nov.**

Herbae annuae vel biennes sparse strigulosae ad glabrae. Rami 25–70 cm alti, erecti, ramosi, basi sublignosi (ad 1 cm crassi), angulares, viridescens ad purpureo-rubescens. Folia 0.6–4 × 0.2–2.5 cm, oblongo-ovata ad lanceolata, basi rotundata ad late cuneata, apice subacuta vel acuminata, acute serrata, subcrassa, subglabra, quoque lateris costae venulis 2–6, basi opposita alia plerumque alternantia; petioli 0.1–3.8 × 0.05–0.2 cm, sparsissime strigulosi ad glabri, viridescens vel rubrescens; stipulae ca. 1 mm longae, acicularo-subulatae, deciduae. Inflorescentia aperte paniculata interdum racemosa terminalis; bractae 0.3–1.3 × 0.1–0.4 cm, lanceolatae vel lineares, subsessilia, subserratae vel serrulatae, subglabrae; pedicelli 0.8–2.1 cm longi, ascendentes, appressi et breve pubescentes ad lateram unam, subglabri ad lateram alteram, viridescens ad purpurei. Sepala 0.45–0.7 × ca. 0.1 cm, linearia ad anguste lanceolata vel oblanceolata, acuta, viridescens ad purpurascens, glabra. Petala rubrescens, inferiora 0.5–0.8 × 0.2–0.35 cm, obovata, subsymmetrice in unguem longum producta, apice rotundata, interdum subcrenulata ad subretusa, superiora 0.5–0.85 × 0.1–0.15 cm, oblanceolata-linearia, subobtusata, unguiculata, breviter obtuseque auriculata, glandis adjaceis 2 praedita. Stamen 0.4–0.5 cm; anthera 0.15–0.2 × 0.07–

0.13 cm, caeruleo-cinerea. Staminodium 0.35–0.45 × 0.2–0.3 cm, late obovatum, abrupte unguiculatum, apice emarginatum, rubescente atque infra pallidiore. Stylus 0.3–0.4 cm longus, filiformis; stigma 0.5–1.1 mm diam., capitatum; ovarium glabrum atque infra breviter strigulosum. Capsula 0.3–0.5 × 0.2–0.4 cm, oblonga vel ovoidea-ellipsoidea, subglabra, nonnullam apice aperta. Semina 0.9–1.1 × 0.6–0.8 mm, oblongo-ovoidea, incurvata, crasse rugoso-tuberculata, subatrae. Numerus chromosomaticus gameticus, $n = 8$.

Type: MEXICO. NUEVO LEÓN: Sierra Madre Oriental, Santa Rosa Canyon, 21 miles west of Linares, cool north-facing talus and rock edges, elevation 2100 feet, 28 October 1964, *H. D. Ripley and R. C. Barneby 13569* (DS, holotype; NY, isotype).

Distribution: Rocky slopes in the Sierra Madre Oriental in Nuevo León and San Luis Potosí; rare and local.

Lopezia nuevo-leonis differs from *L. racemosa* in its long, glabrescent stems, two (not one) glands on each upper petal, more or less oblong capsules, and other features. From *L. miniata* it can be distinguished by its angular reddish stems; acutely serrate leaves (generally glabrous, fleshy and with fewer veins); pinkish-red flowers; shortly and obtusely auricled upper petals; oblong or ovoid-ellipsoid and somewhat longer capsules; coarsely rugose-tubercled, blackish and slightly larger seeds. It likewise differs from both of these species, which have $n = 10$ ($n = 20$ in some populations of *L. racemosa*) in chromosome number.

NEW COMBINATIONS

Lopezia gentryi (Munz) Plitmann, Raven & Breedlove, comb. nov.

Lopezia laciniata (Rose) M. E. Jones subsp. *gentryi* Munz, Brittonia 13: 84. 1961.

Lopezia grandiflora Zuccar. subsp. ***macrophylla*** (Benth.) Plitmann, Raven & Breedlove, comb. nov.

Lopezia macrophylla Benth., Pl. Hartw. 83, 92. 1841.

Lopezia lopezioides (Hook. & Arn.) Plitmann, Raven & Breedlove, comb. nov.

Diplandra lopezioides Hook. & Arn., Bot. Beech. Voy. 292, pl. 60. 1838.

Lopezia riesenbachia Plitmann, Raven & Breedlove, nom. nov.

Riesenbachia racemosa Presl, Rel. Haenk. 2: 36, t. 54. 1831.

Lopezia semeiandra Plitmann, Raven & Breedlove, nom. nov.

Semeiandra grandiflora Hook. & Arn., Bot. Beech. Voy. 291, pl. 59. 1838.